105.8 DNA Profiling (solid forms)

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRMs 2390, and 2391b are intended for use in the standardization of forensic and paternity quality assurance procedures and instructional law enforcement or non-clinical research purposes. SRM 2392 is intended to provide quality control when performing the polymerase chain reaction (PCR) and sequencing of human mitochondrial DNA (mtDNA) for forensic identifications, medical diagnosis, or mutation detection.

SRM 2390 DNA Profiling Standard, based on Restriction Fragment Length Polymorphism (RFLP) testing, is certified for the sizes of each allelic band of five commonly used DNA probes of two human DNA samples; one is from a female cell line, and the other is from a male source. SRM 2390 consists of 20 components

SRM 2391b includes short tandem repeat (STR) information for all genomic DNA samples in the SRM. The STR data includes the Federal Bureau of Investigation's (FBI's) CODIS (Combined DNA Index System) 13 core STR loci, including loci that were commercially available at the time of renewal certification. Certified values for a total of 26 STR loci are included in this renewal issue. The new standard includes well-

SRM 2392 Mitochondrial DNA Sequencing contains DNA extracted from two cell lines plus cloned DNA from a region that is difficult to sequence. The certificate accompanying the SRM details the base pair sequences of the DNA, and the sequences of 58 unique primer sets which permit the amplification and

SRM 2392-I Mitochondrial DNA Sequencing compliments and adds another DNA template to SRM 2392 for the amplification and sequencing of human mtDNA. The selection of the HL-60 cell culture line for this additional DNA template was based on a suggestion from the Federal Bureau of Investigation (FBI) that this

SRM 2394 Heteroplasmic Mitochondrial DNA Mutation Standard contains mixtures of a 285 base pair polymerase chain reaction (PCR) product from two different cell culture lines that differ by one base pair. These mixtures contain varying ratios of the minor/major heteroplasmy including 1/99, 2.5/97.5, 5/95, 10/90, 20/80, 30/70, 40/60, and 50/50. This SRM is intended to provide quality control in determining the sensitivity

SRM 2399 Fragile X Human DNA Triplet Repeat Standard is the leading heritable cause of mental retardataion and the number of Fragile X tests conducted for carrier screening, pre-natal screening and diagnoses is second only to that for cystic fibrosis. SRM 2399 is intended to provide quality control to clinical laboratories that test human samples for Fragile X and need to determine the number of CGG

For further information see:SP260-155

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SRM	Description	Unit of Issue
2390	DNA Profiling Standard	20 components: boxes A, B, and C
2391b	PCR-Based DNA Profiling	12 components: 1 box
2392	Mitochrondrial Sequencing	3 components: 1 box
2392-I	Mitochrondrial Sequencing	1 component: 1 box

2394	Heteroplasmic Mitochondrial DNA Mutation Detection Standard	10 components: 1 box
2395	Human Y-Chromosome DNA Profiling Standard	6 components: 1 box
2396	Oxidative DNA Damage Mass Spectrometry Standard	12 components: 1 box
2399	Fragile X Human DNA Triplet Repeat Standard	9 components: 1 box